

## ABSTRACT

Disclosed is an ion beam-assisted deposition system that includes a bi-lateral RF ion source system that, when used in conjunction with an electron beam, magnetron or ion beam evaporator assembly, creates a deposition zone of sufficient width to enable simultaneous deposition onto a plurality of parallel-arranged translating metal substrate tapes. The arrangement of the bilateral RF ion source is such that a pair of RF ion sources is arranged on opposite sides of an evaporation source in such a manner that a pair of ion beams is directed toward a translating set of parallel-arranged substrate tapes at incident angles of, for example, 55 degrees.